

REMARKS

Claims 1-20 were originally filed in the present application.

Claims 1-20 were rejected in the April 19, 2005 Office Action.

No claims have been allowed.

Claims 1-20 remain in the present application.

Reconsideration of the claims is respectfully requested.

In Sections 1 and 2 of the April 19, 2005 Office Action, the Examiner rejected Claims 1-20 under 35 U.S.C. §103(a) as being unpatentable over U. S. Patent No. 6,091,733 to *Takagi et al.* (hereafter, "*Takagi '733*") in view of U. S. Patent No. 6,272,148 to *Takagi et al.* (hereafter, simply "*Takagi '148*"). The Examiner asserted, among other things, that the *Takagi '733* reference discloses substantially all of the limitations of Claim 1 in FIGURE 3 and in the related text at column 3, lines 20-45 and at column 9, lines 5-10. The Examiner further asserted that the *Takagi '148* reference discloses a wireless interface that is lacking in the *Takagi '733* reference.

The Applicants respectfully disagree with the Examiner's rejections of Claims 1-20 and direct the Examiner's attention to Claim 1, which recites the unique and non-obvious limitations emphasized below:

1. (Original) For use in communications system coupled to a packet network lacking packet aggregation and fragmentation at intermediate nodes therein, a packet relay for improving bandwidth utilization comprising:
 - a connection to a wireless link;
 - a connection to the packet network; and
 - a packet relay controller intercepting traffic between the wireless link and the packet network and re-formatting the intercepted traffic to employ a first maximum transmission unit size for intercepted traffic forwarded to the packet network and a

second maximum transmission unit size for intercepted traffic forwarded to the wireless link.

The Applicants respectfully assert that the above-emphasized limitations are not disclosed, suggested, or even hinted at in the *Takagi '733* reference or the *Takagi '148* reference, or in the combination of the *Takagi '733* and *Takagi '148* references.

The Applicants respectfully assert that the Examiner's assertions regarding the subject matter disclosed in the *Takagi '733* and *Takagi '148* references are inaccurate. The Applicants respectfully assert that the *Takagi '733* reference is directed to uni-directional transfers of packets, not bi-directional transfers, as set forth in Claim 1. The *Takagi '733* reference discloses a communication device that receives a first transport layer protocol data unit and creates a second transport layer protocol data unit based on the first transport layer protocol data unit. The second transport layer protocol data unit contains data from the first transport layer protocol data unit and has a protocol data unit size different from the first transport layer protocol data unit. The second transport layer protocol data unit is then output to a client. See Abstract of *Takagi '733*.

The *Takagi '733* reference is directed to transfers of data from a server terminal to a client terminal in an asymmetric access network in which bandwidth from server terminals to client terminals is much wider than bandwidth from client terminals to server terminals. In such networks, the throughput of the transmission control protocol (TCP) from the server to the client may be lowered because the recommended TCP implementation method implements an algorithm that returns at least one ACK (Acknowledgment) for each two TCP segments. Because of this algorithm,

the throughput in the direction from the server to the client has an upper limit. See *Takagi '733* at column 1, lines 31-54.

The *Takagi '733* reference notes that the narrower bandwidth from the client to the server may be occupied by many ACK messages, thereby preventing the wider down-link bandwidth from being fully utilized. To correct this, the device disclosed in the *Takagi '733* reference makes the size of a second TCP segment to be output from a second interface larger than the size of a first TCP segment received on a first interface. This reduces the number of ACK messages for the entire transmission, thereby improving the throughput from the server to the client. See *Takagi '733* at column 3, lines 8-20. The *Takagi '733* reference discloses that the TCP segment may be enlarged in the asymmetric channel as to be divided into a plurality of IP fragments. This reduces the number of TCP segments required to transmit bulk data of the same size from the server to the client. Thus, the number of ACKs for the TCP segments is reduced. See *Takagi '733* at column 3, lines 21-27.

As the text of the *Takagi '733* reference indicates, the communication device described in the *Takagi '733* reference receives TCP segments having a first size on a network interface and outputs TCP segments having a larger size on a client interface. However, the Applicants respectfully assert that the *Takagi '733* reference does not disclose whether TCP segments transmitted to the network from the network interface are the same size or a different size than either the TCP segments received from the network or the TCP segments sent to the client terminals. The *Takagi '733* reference appears to be silent on this point. Moreover, the Applicants respectfully assert that the *Takagi '148* reference does nothing to overcome this shortcoming.

In sum, Claim 1 recites unique and non-obvious limitations that are not disclosed, suggested, or even hinted at in the *Takagi '733* reference or the *Takagi '148* reference, or in the combination of the *Takagi '733* and *Takagi '148* references. Claim 1 is therefore patentable over these prior art references. Also, dependent Claims 2-7, which depend from Claim 1, contain the same unique and non-obvious limitations recited in Claim 1. Thus, Claims 2-7 are patentable over the *Takagi '733* reference and the *Takagi '148* reference, either individually or in combination.

Independent Claims 8 and 15 recite unique and non-obvious limitations that are analogous to the unique and non-obvious limitations recited in Claim 1. Claims 8 and 15 are therefore patentable over the *Takagi '733* and *Takagi '148* references. Additionally, dependent Claims 9-14, which depend from Claim 8, and dependent Claims 16-20, which depend from Claim 15, contain the same unique and non-obvious limitations recited in Claims 8 and 15, respectively. Thus, Claims 9-14 and 16-20 are patentable over the *Takagi '733* reference and the *Takagi '148* reference, either individually or in combination.

SUMMARY

For the reasons given above, the Applicant respectfully requests reconsideration and allowance of pending claims and that this Application be passed to issue. If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *jmockler@davismunck.com*.

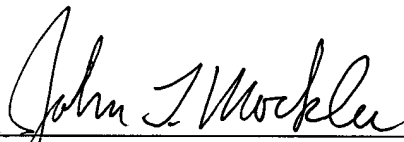
The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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